

Letter of Transmittal

This forest management plan for the Whitney State Forest is submitted for your approval. Upon official notification, the plan will be in force for the period 2018-2028.

Submitted By: _____
Gary Heiser
State Forests Manager

Approved By: _____
Harvey Darden
Director of State Lands

Approved By: _____
Thomas Zaebst
Assistant State Forest Manager

Approved By: _____
Rob Farrell
State Forester



MANAGEMENT PLAN
FOR
WHITNEY STATE FOREST
2018 - 2028

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FOREWORD

The Whitney State Forest was originally deeded as a gift to the Commonwealth of Virginia's Department of Conservation and Economic Development on October 18, 1972, through the generous contribution of Mrs. Helen Whitney Gibson. The 148.5-acre property was originally known as the "Hooewood" tract and was part of the "North Wales Estate" which still borders the property on the north, west and southwest sides.

In 1865, Henry Ashton deeded the property to his daughter, Ellen Ashton. Subsequent transfer deeds passed the property to the most recent heir and donator of the property, Mrs. Helen Whitney Gibson, in 1937. Not much is known by the Department of Forestry about the use and history of the property prior to 1954, when the Agency was contacted to examine the timberlands. Based upon the Forester's recommendations, the mature oak-hickory forest on the eastern side of the property (then approximately 70 acres) was marked for a select cut. Two hundred thirty-five thousand (235,000) board feet of oak, hickory and yellow poplar were marked for harvest. The timber was harvested in the following two years in 1954-55.

Five years later in 1960, an additional 266,000 board feet of timber was marked by the Department in the same 70-acre stand and was harvested. These two harvests combined removed approximately 501,000 board feet, for an average harvest of around 3,500 board feet per acre over a seven-year period.

In the early 1980s, a timber stand improvement harvest was conducted on 20 acres in the southern end of the forest.

The last harvest on the forest was conducted in 2009 and involved the final harvest of a 16-acre white pine and loblolly pine stand, and the thinning of a 13-acre loblolly stand. The white pine stand was subsequently reforested with shortleaf pine.

INTRODUCTION

Since the property's inclusion into the State Forest system on October 18, 1972, until the present date, the Whitney State Forest has been administered by the Virginia Department of Forestry. During that time, road improvements have been made, timber inventories performed, wildlife management activities conducted, pine plantations established, recreational trails established, educational and recreational programs administered and boundary lines have been marked.

The demographics of the community where the Whitney is located has steadily changed over the years from a primarily rural community to an increasing and more diverse population. This change in the population has resulted in the Whitney becoming more popular for recreational use. This increased recreational use will be considered in all future management decisions.

The forest is used internally by the Department of Forestry and externally by cooperating groups for forest and wildlife research.

The following report contains both resource data and information to be used in the planning and management of the Whitney State Forest. The overall objective for the Forest under this plan is to manage the resources effectively and to maintain a healthy forest while meeting the multiple-use needs of wildlife and the citizens of Fauquier County as well as the Commonwealth of Virginia. It is believed that with careful planning, forethought and utilization of responsible land use ethic, these objectives can be met.

LAND DESCRIPTION AND AREA ADMINISTRATION

The Whitney State Forest is located approximately three miles south of Warrenton in Fauquier County, Virginia, on the west side of State Route 684. The Forest comprises a total of 148.5 acres. The primary users of the Forest are hikers, bikers, horseback riders, joggers and school groups. During recent years the Whitney has experienced an increase in use by conservation-oriented clubs and associations, education groups, rescue and safety groups, mountain bike associations, horse riding clubs, cross country running teams and the Boy Scouts of America. Since being acquired by the Department of Forestry, reforestation of open areas, inventories and assessments of forest conditions, American Chestnut research, firewood sales, road maintenance and various trail developments have been the major accomplishments. An old home site with a stone house (circa 1890) and various outbuildings and barns has been identified and some research into its significance to the area and the surrounding history has also been conducted.

The Forest fronts approximately one mile of secondary State Route 684. There is one mile of primary woods road and almost six miles of hiking/biking trails (an increase of 60 percent since 1993). Approximately, 1.1 miles of primary drainages and .5 miles of secondary drainages transect the forest. There are 11.3 acres of the Forest in open field and an additional 3.3 acres are in two parking lots and forest roads. There are 133.9 acres retained and managed as forestland. The timber portion of this management plan will be based on that land area.

WHITNEY STATE FOREST LAND CLASSIFICATION

Forestland	133.9 Acres
Open Field and SMZ opening	11.3 Acres
Roads and Parking Lots	3.3 Acres
Total	148.5 Acres

GENERAL INFORMATION

The history, acquisition, deed information and past forest management data are found in:

- Courthouse Historical Land Research Books at the Fauquier County Courthouse.
- *The History of the Virginia Forest Service* by Seth G. Hobart, Former Chief of Forest Management, Virginia Department of Forestry, September 1953.
- *Management Plan for the Whitney State Forest*. Prepared by the Virginia Department of Forestry, Candace Wyman, Fauquier County Forester, 1981.
- *Management Plan for the Whitney State Forest*. Prepared by the Virginia Department of Forestry, Gary Heiser, Fauquier County Forester, 1993.
- *Management Plan for Whitney State Forest*. Prepared by the Virginia Department of Forestry, Terry Lasher, Fauquier County Forester 2007.
- *Management Plan for Whitney State Forest* Prepared by the Virginia Department of Forestry, Gary Heiser, State Forests Manager 2018.

TOPOGRAPHY, DRAINAGE AND CLIMATE

Physiographically, the Forest is located in the Northern Piedmont of Virginia. Topographically, the area is characterized as rolling with slopes from five to twenty percent. Elevations range from 400' to 520' above sea level.

The Whitney State Forest is situated within Plant Hardiness Zone 7 (10° - 0°F) as defined by The National Arbor Day Foundation. Mean annual temperatures average 55° to 60° (avg. 54.4°) with a frost-

free growing season of approximately 185 days. Precipitation is quite variable over both long and short periods. Annual precipitation is 40-50 inches (avg. 40.5").

GEOLOGY AND SOILS

Fauquier silt loam is the primary soil type found throughout the Forest encompassing approximately 80% of the total area. This soil is defined as a well drained, moderately acidic soil with an above average productivity rating for tree growth when compared to other soils commonly found in this physiographic region. The remaining 20 percent is a combination of catoctin silt loam (15%) and various other soils (5%) that are similar in composition to the Fauquier silt loam. The catoctin silt loam differs from the Fauquier silt loam by providing a slightly greater depth to bedrock, but is similar in productivity and drainage.

ECONOMY

The economy of the area is excellent being within the general service area of the Northern Virginia and Washington D.C. metropolitan area. Some forest product markets exist in the area, but are not as readily available as was the case in the past. There are still large amounts of Consulting Foresters that work the surrounding area (Virginia Department of Forestry's Consulting Forester List) and Timber Harvesters of varying size are available.

FOREST DESCRIPTION

FOREST TYPES

All forestland was mapped by species groups and age class.

ACREAGE BY SPECIES GROUP AND AGE CLASS

Age Class	Loblolly Pine	SMZ	White Pine	Shortleaf Pine	Upland Hardwood	Old Field Hardwood	P/H	Total Acres
1-19	-	-	-	16.1	-	-	-	16.1
20-39	-	-	-	-	-	-	-	-
40-59	11.9	-	-	-	20.7	13.9	-	46.5
60-79	-	-	-	-	-	-	6.7	6.7
80-99	-	-	-	-	-	-	-	-
100-119	-	17.8	-	-	46.8	-	-	64.6
120+	-	-	-	-	-	-	-	-
Total	11.9	17.8	-	16.1	67.5	13.9	6.7	133.9

MANAGEMENT POLICY AND OBJECTIVES

OBJECTIVES

Management objectives for the Whitney State Forest have been developed to achieve multiple-use benefits. These benefits include demonstration of silvicultural treatments, forest research, forest health, enhanced wildlife management, recreation, environmental education, improved water quality and revenue generation.

1. Manage forest for multiple use, species and age diversity, improved health, and revenue generation.
2. Long range mature, oak/hickory forest management.
 - a. Demonstrate silvicultural prescriptions

- b. Invasive species control
 - c. Increase and stimulate desirable regeneration
 - d. Generate operational revenue
- 3. Native species establishment and management (shortleaf pine, *Pinus Echinata*).
- 4. Invasive species control.
- 5. Maintain trail and forest road network for multiple use.
- 6. Increase wildlife diversity and density through habitat manipulation.
 - a. Creation of den trees
 - b. Snag retention
 - c. Maintenance of forest edges and cover
 - d. Maintain diverse tree species and tree ages.
- 7. Conduct all silvicultural activities in compliance of the Virginia Best Management Practices for Forestry.

POLICY

- 1. To utilize accumulated resource data, maps, plans and agreements for application of multiple-use forest management on a scientifically sound basis or acceptable compromise.
- 2. To maintain strict administrative control over all activities of development and regulation within the Forest.
- 3. To apply professionally prescribed silvicultural treatments on all forestlands not specifically preserved.

MANAGEMENT OF RECREATION AND EDUCATION DURING SILVICULTURAL TREATMENTS

Prior to conducting silvicultural activities on the Forest, the Virginia Department of Forestry (VDOF) will make an effort to notify the public through communications at the Whitney State Forest Kiosk (located in the main parking lot) and through local media outlets. In the event that the activities may impede recreational or educational activities, the VDOF reserves the right to close trails, roads, parking lots, and other areas of public interest and access including the entire Forest for the duration of the activity. If the decision is made to keep the Forest open in remote areas away from the silvicultural activity, the VDOF may provide alternative trails, routes and access points for continued use of the Forest. Detours, closures and temporary access points will be clearly labeled, posted, and represented on maps located at the Kiosk.

EDUCATIONAL COMPONENT

All of the planned treatments aid the VDOF in achieving various strategic goals. Educational opportunities that will result from the silvicultural activities are the demonstration of Virginia's Forestry Best Management Practices. They will provide information to the public about water quality and riparian management. The treatments will make evident through demonstrations of scientifically based recommendations how forest management will increase the longevity, the health, the vigor and diversity of age classes, species types, and habitat improvements in forest settings. Activities will also exhibit the restoration of a declining native species (shortleaf pine) through proper planting and management techniques.

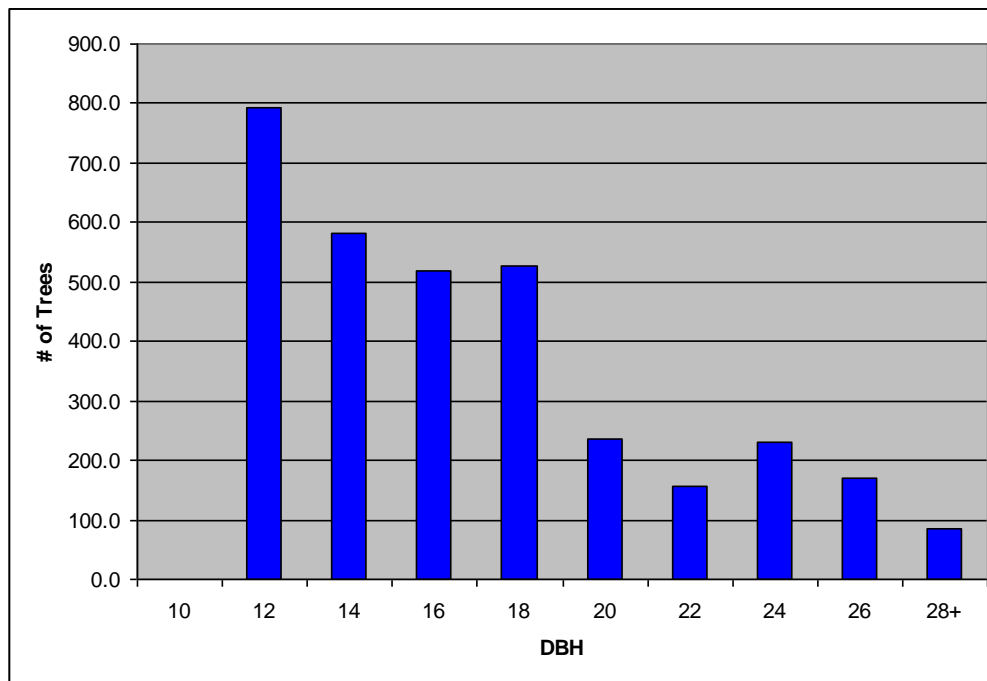
PROPOSED FOREST ACTIVITIES

UH – 118 YEARS (46.8 ACRES)

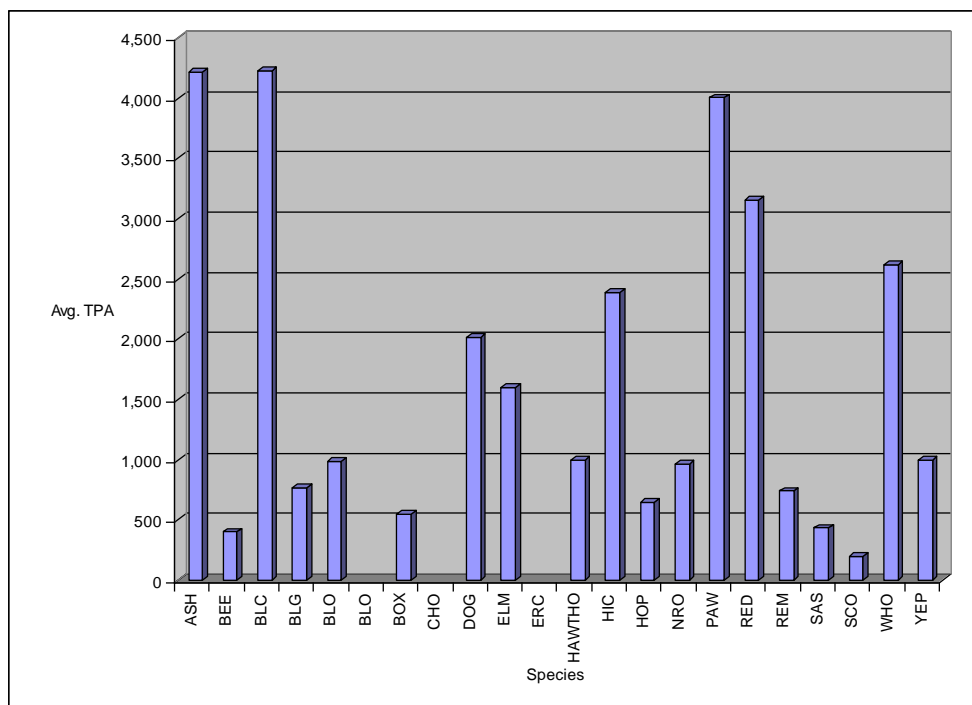
This stand is stocked with primarily good quality hardwoods growing at an acceptable rate and of overall good health. Management of this stand will be directed at maintaining an important aspect of multi-use management by providing an aesthetic area for recreational use and research.

Due to the soils in this stand which support good hardwood growth , the use of this area for research into the establishment of oak understory regeneration would be beneficial in reproducing oak on good sites in Virginia. Understory burning, mid-story reduction, and thinning would be worthwhile research practices.

DIAMETER DISTRIBUTION FOR UH-118 (2007)



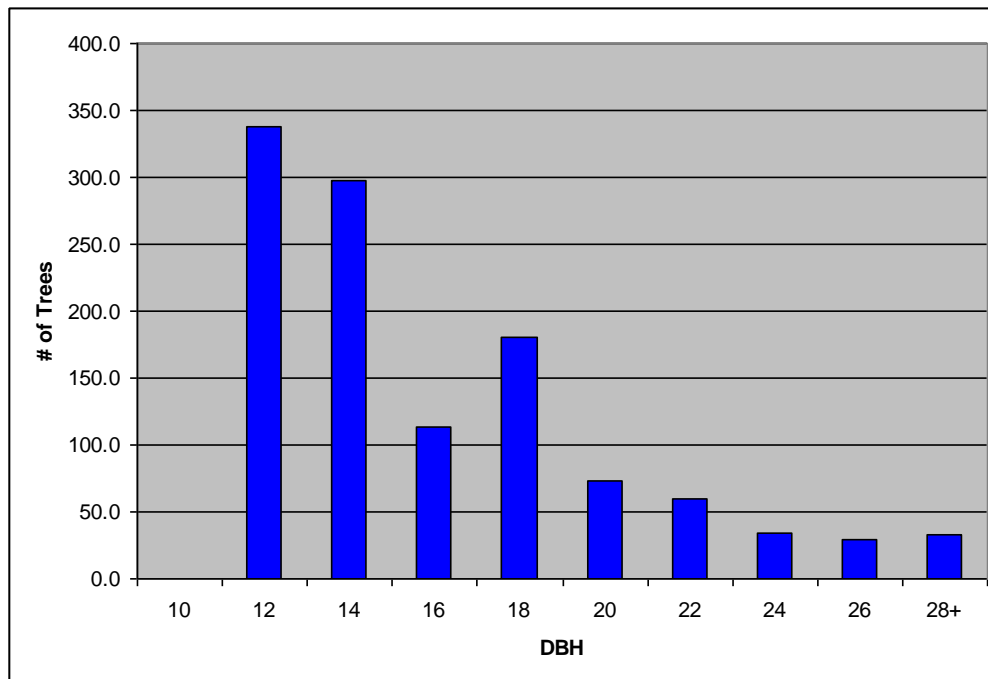
REGENERATION PLOT DATA FOR UH-118(2007)



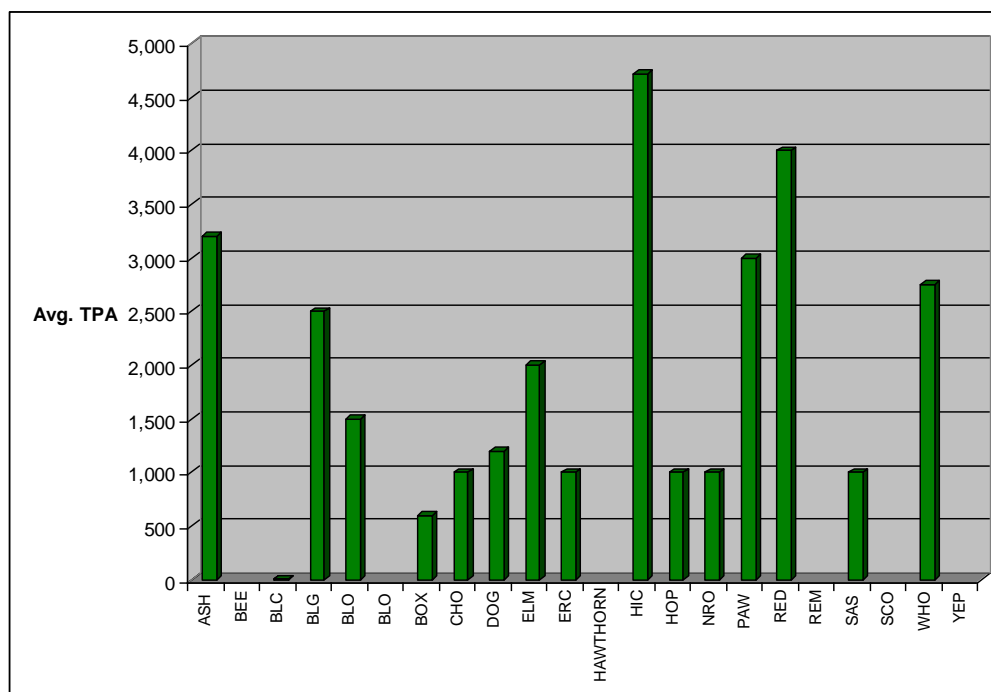
UH – 58 YEARS (20.7 ACRES)

This stand is stocked with hardwoods growing at an acceptable rate and of overall good health. Regeneration of desired species is adequate in some areas, and significantly lacking in others. Many invasive shrubs persist in the understory and along trails. A prescribed understory burn should be conducted to control unwanted species and to stimulate young vigorous vegetation. There is a large oak hickory component to this stand. A thinning in this stand favoring oak should be conducted to improve the overall health, diameter growth, composition, and quality. This treatment will also increase the regeneration potential of the desired crop species. Prior to any harvest, the presence of invasive species should be addressed and control measures in place.

DIAMETER DISTRIBUTION FOR UH-58 (2007)



REGENERATION PLOT DATA FOR UH-58(2007)



SP – 7 YEARS (16.1 ACRES)

This stand was planted to shortleaf pine in 2011 following the harvest of loblolly and white pines that occupied the stand. The new stand is understocked in places due to invasive species shading out the shortleaf seedlings. The stand was released from competing vegetation twice. The remaining shortleaf are growing well.

A series of prescribed burns beginning in 2021 should be implemented to reduce the invasive species occupying the site and to possibly create a savannah type ecosystem, which would improve aesthetics and provide very good wildlife habitat.

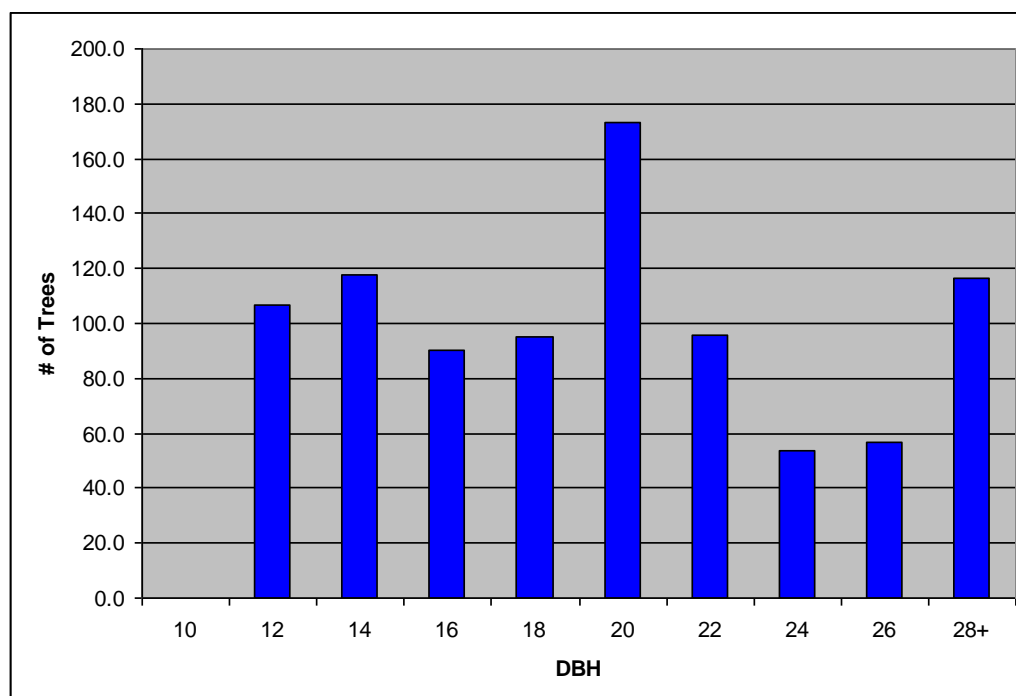
LP – 43 YEARS (11.9 ACRES)

This stand of loblolly pine was thinned in 2010 and is currently mature. The stand should be harvested prior to reaching age 50. If adequate understory hardwood regeneration is present, the stand should be allowed to regenerate naturally to hardwoods. If the hardwood regeneration is not adequate, reforestation to short leaf pine is recommended. Regeneration by any means will be challenging due to the abundance of invasive species. Several controlled burns in the years prior to harvest may help control invasive species.

OLD FIELD HARDWOODS – 58 YEARS (13.9 ACRES)

This stand is a typical old field hardwood stand that regenerated from open fields. Large, high quality yellow poplar trees dominate throughout. The stand is further characterized as an even aged system with pioneering species represented in the dominant and co-dominant crown classes (black walnut, black locust, hackberry). Recommended course of action is to manage this stand for yellow poplar. The species currently does well on the site, will regenerate well after harvest and has good commercial value. A modified crop tree release designed to improve stem quality and species composition of this forest stand will, in patches, allow for full sun to reach the forest floor and the disturbed soils should allow for prolific seed germination. Yellow poplar also will root and stump sprout further ensuring the success of the regeneration process. Additionally, retention of a high quality overstory component will provide aesthetic benefits.

DIAMETER DISTRIBUTION FOR CV-58 (2007)



PINE HARDWOODS – 76 YEARS (6.7 ACRES)

This stand was once open field approximately 76 years ago. Initially it regenerated to Virginia and shortleaf pine, which is currently in the later stages of decline. The stand should be allowed to develop into a mixed hardwood stand with future management combined with the adjoining 58 year old hardwood stand..

STREAMSIDE MANAGEMENT ZONE – (17.8 ACRES)

This area will remain to develop naturally while providing protection to water quality and the stream ecosystem. This stand will over time develop into old growth timber.

OPEN FIELD (11.2 ACRES)

This open field should continue to be managed as a natural open area. It is the only large opening within the forest and serves as a great area for wildlife. It is currently being used for brooding, nesting, cover, and recreational wildlife watching. Wildflowers are found scattered throughout and many visitors to the Forest appreciate their viewing and aesthetics. It provides for diversity in cover, habitats, and management regime. The field should be mowed every two years with controlled burns conducted as possible.

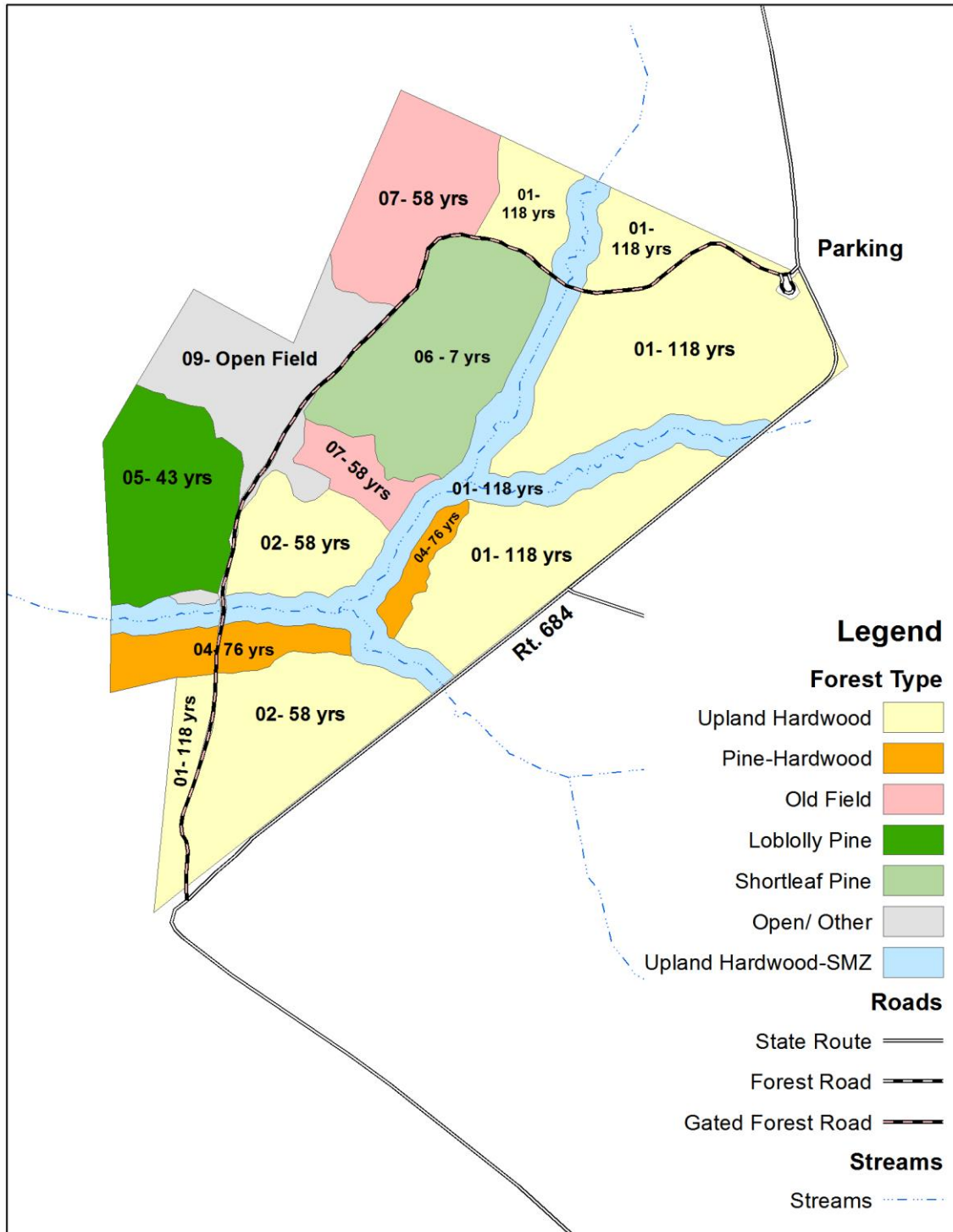
TRAILS AND ROADS (APPROX. 7 MILES)

The current trail system in the forest is in need of evaluation to determine if the number and length of trails is excessive for the size of the forest. Reducing the total length of trails would enhance the ability to properly maintain them. Evaluating the current trail system for possible reduction should be undertaken.

FOREST STAND, TYPE AND AGE MAP

Whitney State Forest

Virginia Department of Forestry



Forest Stand, Type and Age Map

Labels denote stand number and age.

TZ-2018

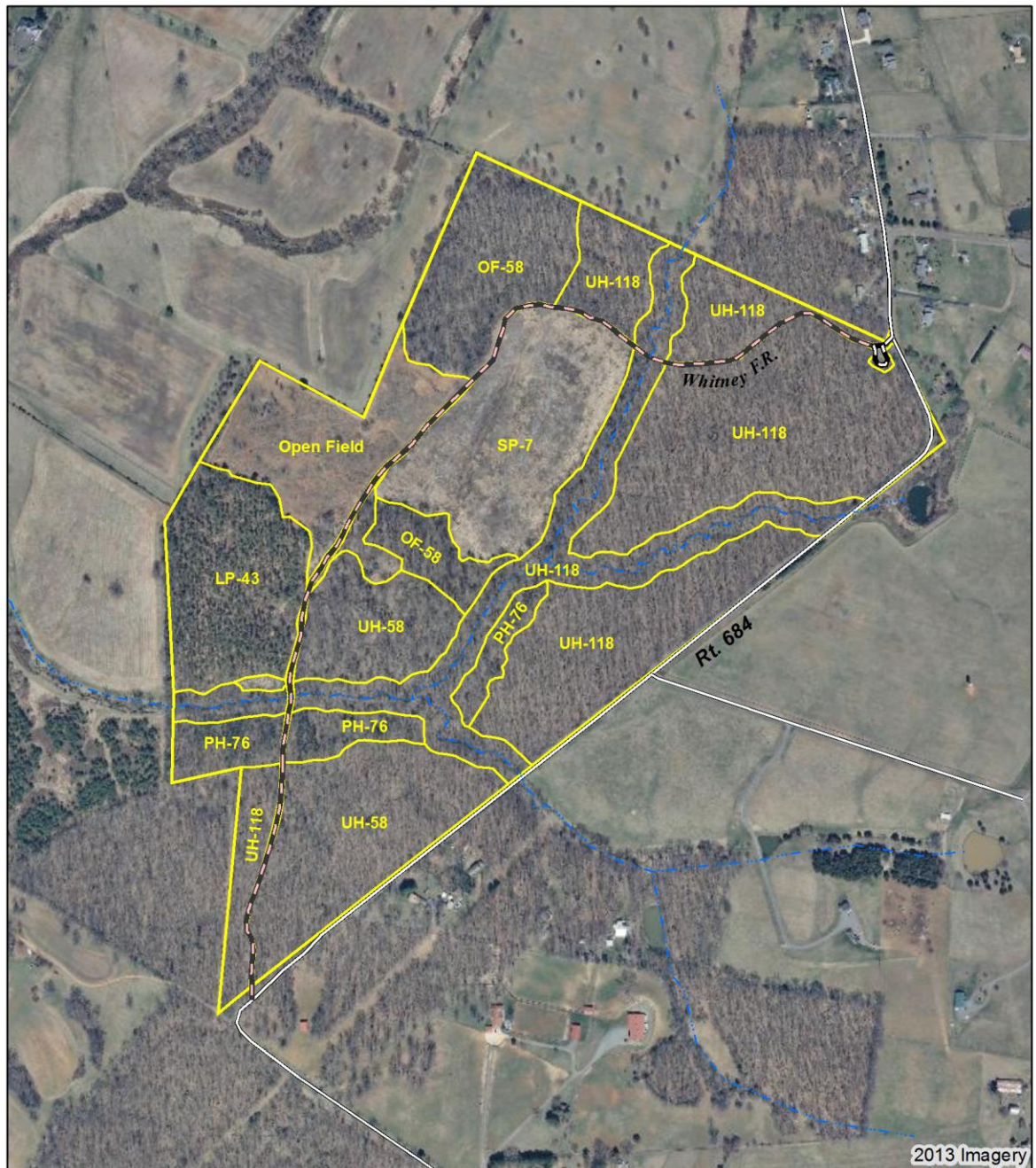
0 500 1,000 1,500 Feet



FOREST STAND MAP

Whitney State Forest

Virginia Department of Forestry



Forest Stand Map

Legend

Forest Stands

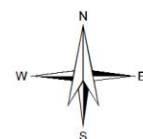
Stand Type and Age

--- Stream

State Road

Forest Road

Gated Forest Road



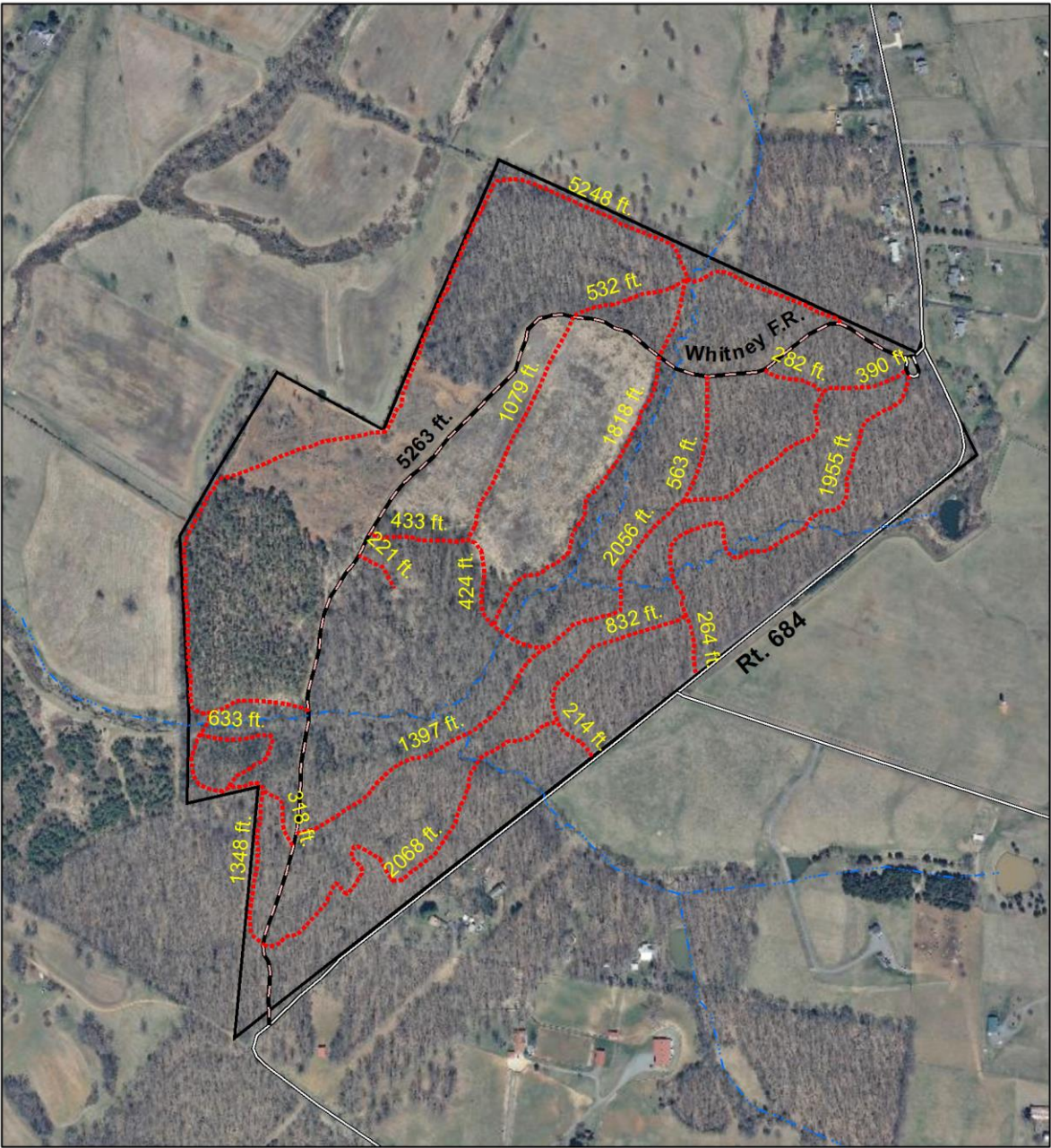
0 250 500 750 1,000
Feet

TZ-2018

FOREST TRAILS MAP

Whitney State Forest

Trails Map



Legend

State Forest Boundary

Trails

Stream

Stream

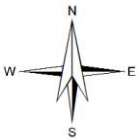
TZ 2018

Roads

State Road

Forest Road

Gated Forest Road

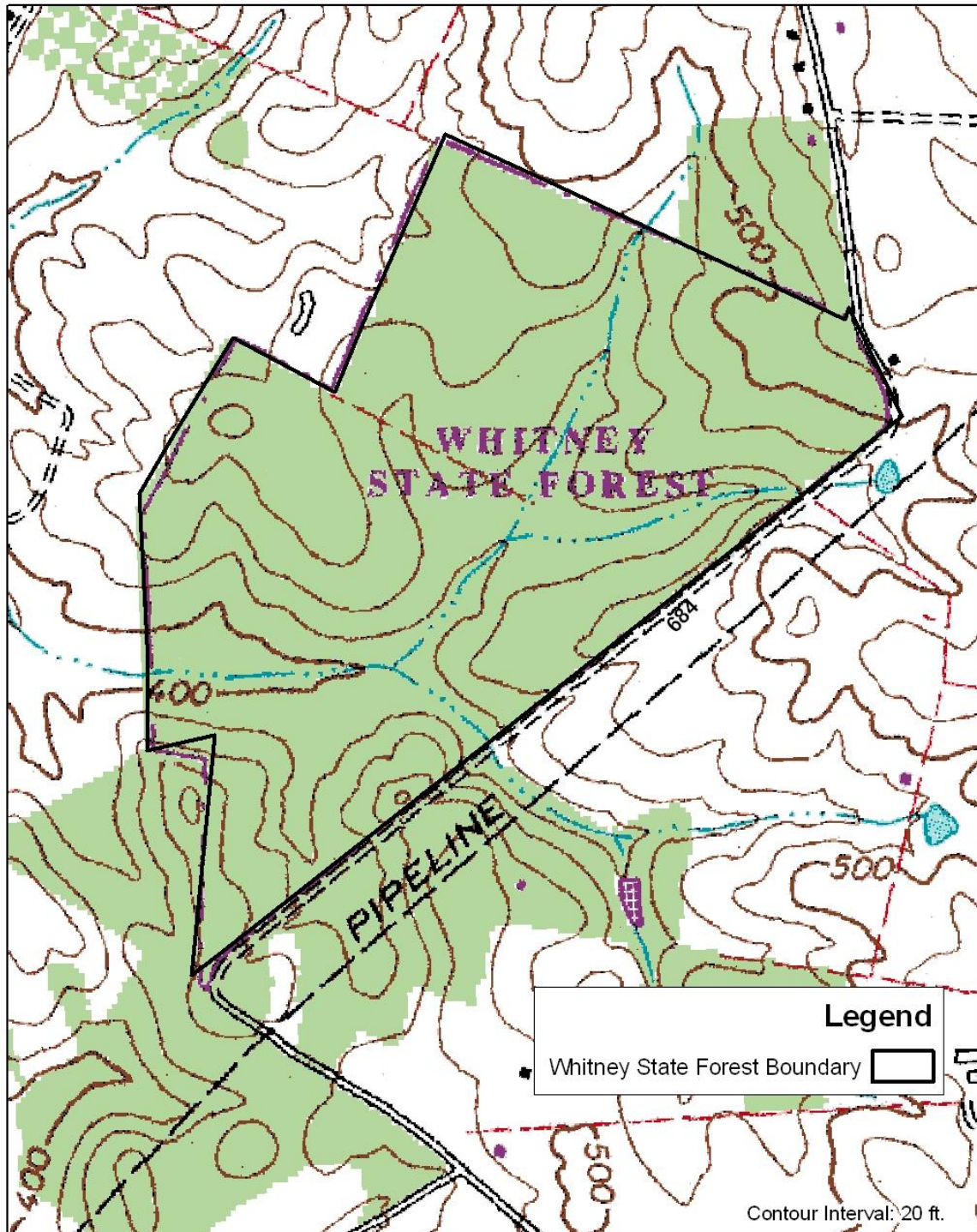


0 250 500 750 1,000
 Feet

FOREST BOUNDARY MAP

Whitney State Forest

Virginia Department of Forestry



Forest Boundary Map with
USGS Topography

0 330 660 990 1,320
Feet



TZ-2007